

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Proposed Action:** Approve Drilling Permit (Form 22)

**Operator:** Continental Resources, Inc.

**Well Name/Number:** Cherry 2-17H

**Location:** NW NW Section 17 T24N R53E

**County:** Richland, **MT;** **Field (or Wildcat)** W/C (Bakken Horizontal)

**Air Quality**

(possible concerns)

Long drilling time no, 30 to 40 days drilling time.

Unusually deep drilling (high horsepower rig) No, triple derrick rig to drill a single lateral horizontal Bakken Formation test, 19,101'MD/9,241'TVD

Possible H<sub>2</sub>S gas production slight

in/near Class I air quality area no

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: no special concerns – using triple rig to drill to 19101'MD

**Water Quality**

(possible concerns)

Salt/oil based mud yes, freshwater and freshwater mud system on surface hole and oil based mud system on mainhole. Brine water to drill horizontal lateral.

High water table no

Surface drainage leads to live water Yes, nearest drainage is an unnamed ephemeral drainage to Horse Creek about 1/5 of a mile to the southwest. Location is about 2/5 of a mile to the east of Horse Creek.

Water well contamination No, closest water wells are two stockwater wells about 7/10 of a mile to the northeast, 1 stockwater well 3/10 of a mile to the northeast, and a domestic water well about 3/10 of a mile to the northeast. Depth of these stock and domestic water wells range from 35' to 75'.

Porous/permeable soils no, silty bentonitic soils

Class I stream drainage no

Mitigation:

☒ Lined cuttings pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☒ Off-site disposal of solids/liquids (in approved facility)

☐ Other: \_\_\_\_\_

Comments: 1330' of surface casing cemented to surface adequate to protect freshwater zones.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings no crossing.

High erosion potential no, moderate cut, up to 18.8' and small fill, up to 12.6' required.

Loss of soil productivity no, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite no, 335'X390' location size required.

Damage to improvements Slight

Conflict with existing land use/values Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other \_\_\_\_\_

Comments: Access will be off of an existing county road #134 and a short access road of about 50' will be built into this location. Cuttings will be buried in the lined cuttings pit. Liquids will be recycled and/or hauled to a commercial disposal. Pit will be backfilled with cuttings when dry. No special concerns

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## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences buildings about 1.5 miles to the northeast and 2.625 miles to the east of this location.

Possibility of H2S slight

Size of rig/length of drilling time Triple drilling rig 30 to 40 days drilling time

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: no concerns

## Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified) n/a None identified.

Proximity to recreation sites None identified

Creation of new access to wildlife habitat No

Conflict with game range/refuge management no

Threatened or endangered Species No, Greater Sage Grouse and Sprague's Pipit are candidate species in Richland County.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

\_\_\_ Screening/fencing of pits, drillsite

Other: \_\_\_\_\_

Comments: no concerns

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### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

\_\_\_ avoidance (topographic tolerance, location exception)

\_\_\_ other agency review (SHPO, DSL, federal agencies)

Other: \_\_\_\_\_

Comments: on private land

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### Social/Economic

(possible concerns)

\_\_\_ Substantial effect on tax base

\_\_\_ Create demand for new governmental services

\_\_\_ Population increase or relocation

Comments: no concerns

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### Remarks or Special Concerns for this site

Well is a 19,101' MD/9,241'TVD single lateral Bakken horizontal well test in Richland County.

### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): John Gizicki

(title:) Compliance Specialist

Date: March 12, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Richland County water wells

(subject discussed)

March 12, 2014

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_